AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1-35. (Canceled)

36. (New) A method of producing a molding die for molding an optical element, comprising:

shaping an amorphous alloy having a super-cooled liquid phase to form a die base body; and

forming a die face onto a part of the die base body, wherein the die face corresponds to an optical surface of the optical element or the die face corresponds to a dimensional reference surface.

37. (New) The method of claim 36, wherein the shaping step includes softening the amorphous alloy with heat and pressing the softened amorphous alloy into the form of the die base body.

38. (New) The method of claim 36, wherein the forming step includes grinding the part of the die base body to form the die face.

39. (New) The method of claim 38, wherein the grinding step is conducted with a diamond grind stone.

40. (New) The method of claim 36, wherein the forming step includes cutting the part of the die base body to form the die face.

41. (New) The method of claim 40, wherein the cutting step is conducted with a diamond cutting tool.

42. (New) The method of claim 36, wherein the amorphous alloy has a hardness of not lower than Hv 300 at room temperature.

43. (New) The method of claim 42, wherein the amorphous alloy has a hardness of not more than Hv 700 at room temperature.

44. (New) The method of claim 36, wherein the amorphous alloy includes palladium in an amount ranging from 30 mol% to 50 mol% of the amorphous alloy.

45. (New) The method of claim 36, wherein the amorphous alloy includes at least one of copper, nickel, phosphor, zirconium and aluminum in an amount not less than 3 mol% of the amorphous alloy.

46. (New) The method of claim 36, wherein the forming step includes exposing the part of the die base body and developing the exposed part of the die base body to form the die face.

47. (New) The method of claim 36, wherein the forming step includes cutting the part of the die base body, exposing the cut part of the die base body and developing the exposed part of the die base body to form the die face.

48. (New) The method of claim 47, wherein the cutting step is conducted with a diamond cutting tool.

49. (New) The method of claim 46, wherein the shaping step includes softening the amorphous alloy with heat and pressing the softened amorphous alloy into the form of the die base body.

50. (New) The method of claim 46, wherein the die face has a plurality of protrusions or a plurality of hollows so as to transfer the plurality of protrusions or the plurality of hollows from the die face onto an optical surface of the optical element.

51. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element form a fine structure having an equivalent refractive index region.

52. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element form a fine structure to create a reflection preventing effect.

53. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element form a fine structure to generate a structural double refraction.

54. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element form a fine structure having a resonance region.

55. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element correct a change in aberration due to a wavelength change of a light source to emit a light flux to the optical element.

56. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element correct a change in aberration due to a temperature change.

57. (New) The method of claim 50, wherein the plurality of protrusions or the plurality of hollows on the optical surface of the optical element form at least one ring-shaped diffractive zone.